

CLAIMS:

1. A process for extruding tubular products, particularly blown plastic foil hoses, comprising the steps of feeding a pressurized material, particularly plastic material into an extruder nozzle, and forcing this material flow through a duct formed between an
5 outer and an inner nozzle components, then shaping the tubular product by pressing the material flow through an annular drawing aperture at the duct end of the extruder nozzle, *characterized* in that the material flow entering the extruder nozzle is distributed along the duct – in the direction of progress of the entering material flow – by being first led into an annular expansion chamber after an inlet, the cross-section of
10 which is selected much greater, advantageously of at least one order of magnitude greater than that of the inlet; and when the annular expansion chamber has been completely filled up by the material flow whose pressure has become higher than the flow resistance of an homogenizing ring channel having a cross-section narrowed to and connected to the annular expansion chamber, then in the homogenizing ring channel the
15 material flow is moved in cross direction to the entering direction thereof, and it is homogenized by the relative rotation of surfaces partly delimiting at least the homogenizing ring channel, and the material flow is led to a drawing aperture by way of a helical forced movement.
2. A process according to Claim 1, *characterized* by embedding and/or
20 centralizing the nozzle core in the external nozzle part, at least partly, by the material flow kept in forced motion.
3. A process according to Claim 1 or 2, *characterized* by maintaining the material flow in the extruder nozzle at the required temperature by internal heat generated in the material itself as a result of kneading work performed by forced
25 motion of the material flow.
4. An extruder nozzle for producing tubular products, particularly blown plastic foil hoses from pressurized materials, comprising an external nozzle component and an internal nozzle core embedded therein, with a material distribution duct arranged between the external nozzle component and the internal nozzle core; the external nozzle
30 component having an inlet for receiving the pressurized material, which is connected to a drawing aperture through the duct, *characterized* in that the external nozzle

component (2) and the internal nozzle core (3) of the extruder nozzle (1) are arranged relatively (mutually) rotatable, for which the external nozzle component (2) and/or the internal nozzle core (3) is provided with a rotary drive; said material distribution duct comprises an annular expansion chamber (7) connected to the radial inlet (6); the
5 cross-section of the annular expansion chamber (7) is much greater, advantageously of at least one order of magnitude greater than that of the inlet (6); said material distribution duct comprises a homogenizing ring channel (13) connected with its one end to the annular expansion chamber (7) and its cross-section is narrowed to the required proportion in comparison to the annular expansion chamber (7), and its other end is connected
10 to the drawing aperture (14).

5. An extruder nozzle for producing tubular products, particularly blown plastic foil hoses from pressurized material, comprising an external nozzle component and an internal nozzle core embedded therein, and a material distribution duct arranged between the external nozzle component and the internal nozzle core; the external nozzle
15 component having an inlet for receiving at least one pressurized material, which is connected to a drawing aperture through said duct, *characterized* in that the extruder nozzle (1) is suitable for producing multi-layer tubular products, mainly foil hoses (T'), wherein the material distribution duct comprises a first annular expansion chamber (7) connected to the first inlet (6) receiving a first pressurized material flow;
20 the cross-section of said expansion chamber (7) is much greater, advantageously of at least one order of magnitude greater than that of the first inlet (6), furthermore the material distribution duct also comprises a first homogenizing ring channel (13) connected preferably co-axially to the expansion chamber (7), and a cross-section of the first homogenizing ring channel (13) is narrowed to the required proportion compared to said
25 expansion chamber (7), and is partly delimited by a skirt surface (28) of a delimiting sleeve (27) embedded freely rotatable in the external nozzle component (2); the delimiting sleeve (27) has another skirt surface (31) delimiting a second homogenizing ring channel (33) of a cross-section narrowed to the required proportion, one of the ends of which is connected to a second inlet (34) receiving a second material through a second
30 annular expansion chamber (32), which is much greater cross-section, preferably of at least one order of magnitude greater than the cross-section of the second homogenizing ring channel (33) or the second inlet (34); the other ends of the first and second ho-

homogenizing ring channels (13, 33) are preferably connected to a common joining chamber (35) which is connected to the drawing aperture (14); the external nozzle component (2), the internal nozzle core (3), and the at least one delimiting sleeve (27) are arranged relatively (mutually) rotatable, and the external nozzle part (2) and/or the internal nozzle core (3) and/or the delimiting sleeve (27) is connected to a rotary drive.

6. An extruder nozzle according to Claims 4 or 5, *characterized* in that the annular expansion chamber (7; 32), the homogenizing ring channel (13; 33), and the drawing aperture (14) are coaxially arranged to a longitudinal axis (4) of the extruder nozzle (1).

7. An extruder nozzle according to Claim 6, characterized in that the lower end of the rotatable nozzle core (3) is embedded in bearings (11, 12) in the external nozzle component (2), allowing a limited radial displacement of an upper end of the nozzle core (3), and the upper end of the nozzle core (3) adjacent to the homogenizing ring channel (13; 33) is arranged in a bearing-free, self-positioning manner.

8. An extruder nozzle according to Claims 4 or 5, characterized in that the rotatable nozzle core (3) is axially divided, one of its parts (3A) provided with an opening delimiting the drawing aperture (14) can be replaced.

9. An extruder nozzle according to Claims 4 or 5, *characterized* in that the external nozzle component (2) is axially divided into parts (2A, 2B, 2C, 2D), wherein there is a distance (24) and at least one connecting ring (25) between the adjacent parts (2B, 2C) for reducing thermal load of the parts (2C, 2D) comprising bearings (11, 12) of said nozzle core (3).

10. An extruder nozzle according to Claims 4 or 5, characterized in that it is provided at least one gap-controlling groove (38B; 39B) formed as to control in a predetermined manner a size and shape of cross-section of the material flow in the homogenizing ring channel (13; 33).